

AMENDMENTS TO SPECIFICATION

plan view shape, and a symmetrically pointed end 566 which protrudes radially outwardly of curved outer perimeter wall surface 555 of the fixture. Index arm 565 is pivotably mounted parallel to lower wall surface ~~567~~ 552 of drilling alignment fixture base plate 551 by means of a screw 568 which has a shank 569 threaded into a bore 570 through the base, at a location near a focus of the semi-elliptically shaped base plate. Shank 569 is disposed vertically through a longitudinally elongated, rectangularly shaped aperture slot 571 provided through the thickness dimension of index arm 565. Slot 571 is located on a longitudinal center line of index arm 565, spaced inwardly of a rear transverse edge wall 572 of the index arm. Index arm 565 is retained parallel to and pivotably movable with respect to lower surface ~~567~~ 552 of drilling fixture base plate 551 by a washer 573 positioned on shank 569 of screw 568, below the slotted head 574 of the screw.

Referring to Figures 44, 45, and 48, it may be seen that drill guide bushing 564 has a generally cylindrical shape including a lower cylindrical portion 575 which is fastened within a bore 576 provided through index arm 565, radially inwardly from pointed end 566 of the index arm. Drill bit guide bushing 564 also has an annular ring-shaped flange 577 which protrudes radially outwardly from cylindrical body 578 of the bushing, at a longitudinal location between lower end wall 579 and upper end wall 580 of the bushing. Flange 577 has a lower face which is slidable on upper surface 553 of drilling alignment fixture 550. Thus constructed, index arm 565 is pivotable about the axis of screw 568 to pointed end 566 of the index arm in vertical alignment with any selected circumferential location around the periphery of fixture base plate 551. Referring to Figure 46, it may be seen that index arm 565 is optionally and preferably fitted with a pointer index pin or gnomon 583 which protrudes perpendicularly upwards from index arm 565, near tip 566 thereof.

As shown in Figure 45, upstanding peripheral flange wall 554 of full-arch drilling alignment fixture 550 forms with base plate 551 a semi-elliptically shaped cylindrical cavity 584 which is of the proper size and shape to vertically insertably receive in a conformal fit the

1 lower ring-shaped peripheral wall 441L which protrudes downwardly from centrally located
2 abutment flange 455 of a full-arch tray 431.

3 Figures 54-62 illustrate the manner of using full-arch tray slide receptacle 620. As
4 shown in Figure 54A, 54B, a pair of lower and upper full-arch dental model trays 431A, 431B
5 containing lower and upper dental model casts JFA, JFB, and joined by an articulator hinge
6 mechanism 32 are slidably mounted in a pair of lower and upper slide receptacles 620A,
7 620B, in the manner described above. Next, as shown in Figures 56A, 56B, a relatively thick
8 layer of viscous semi-liquid die stone is applied to the upper surface 604 of a first, lower arch
9 mounting base plate 603, and the base plate is attached to lower arm 601 of articulator 600
10 by means of a lower arm thumbscrew 608A. Then, as shown in Figure 57, a pot magnet PM
11 is magnetically attached to disk 627 of lower slide receptacle 620A. Following this step, as
12 shown in Figures 57A and 57B, a relatively thick layer of semi-liquid die stone is applied over
13 pot magnet PM and the lower surface of inverted slide receptacle base plate 621. Lower slide
14 receptacle 620A containing lower full-arch tray 431A and dental model cast JFA is then
15 uprighted, and the semi-liquid die stone layer on the lower surface of the slide receptacle
16 pressed into the semi-liquid die stone layer on the upper surface of lower mounting base plate
17 603. Time is then allowed for the two die stone layers to cohere and harden into a unitary
18 mass.

19 As shown in Figures 58 and 59, the steps described above for attaching a lower
20 full-arch dental model cast JFA contained in tray 431A temporarily slidably mounted in a first
21 lower slide receptacle 620A are repeated to attach a second, upper slide receptacle 620B
22 holding an upper full-arch tray 431B and upper full-arch dental model cast JFB to upper
23 articulator arm 602, thus making a complete articulated dental model as shown in Figure 59.

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25 By employing magnetic attachment means for mounting lower and upper full-arch
26 slide receptacles 620A, 620B to lower and upper articulator arms 601, 602, the slide
27 receptacles may be separately and repeatedly removed from 3-D articulator 600 to enable
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1 various laboratory processing operations required for the manufacture of dental prostheses
2 to be performed on dental model casts JFA, JFB, and the slide receptacles re-attached to the
3 articulator arms in precisely pre-determined positions enabled by indexing ribs 629 seating
4 in cavities formed in die stone and adhered to base plates 603L, 603U of articular 600, which
5 provide proper occlusal relationship
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